

Notice of Allowability

Application No.

09/833,791

Examiner

Thomas H. Stevens

Applicant(s)

FELDMAN ET AL.

Art Unit

2123

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed 11/02/2005.
2. ☒ The allowed claim(s) is/are 1-13.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

DETAILED ACTION

1. Claims 1-13 were examined.

Section I: Allowance

2. Claims 1-13 are allowed.
3. The following is an examiner's statement of reasons for allowance:

While US Patent 6212952 teaches (claim 1) a method of determining time-dependent changes in sub-surface density of a natural resource reservoir, comprising measuring a set of time-lapse gravity gradient data for a sub-surface natural resource deposit characterized by a change in a density characteristic over time; creating a model of the change in density of the reservoir; establishing a set of quantized mathematically related parameters defining the density model and computing at least gravity gradients for that quantized model and; and repeating the perturbing and evaluation steps while the control parameter decreases the probability function with successive repetitions (claim 1 and claim 7); a method of identifying the boundary or interface between a driveout fluid and to-be-recovered oil in a sub-surface oil reservoir undergoing secondary oil recovery, comprising the steps of: measuring the gravity gradient at a plurality of observation sites; creating a change of density model of the oil reservoir; establishing a set of quantized mathematically related parameters; perturbing at least one parameter of the model and recalculating the figure of merit for the perturbed model, and repeating the perturbing and evaluation steps while the control parameter decreases the probability function with successive repetitions (claim 7), this

reference, taken either alone or in combination, with the prior art of record fails to disclose a figure of merit, including:

(claim 1) "perturbing at least one parameter of the model and recalculating the figure of merit for the perturbed model; evaluating the figure of merit for the perturbed model relative to that of the immediately preceding model and accepting the perturbed model if more optimal relative to the immediately preceding model and accepting the perturbed model if less optimal in accordance with a probability function that varies in accordance with a control parameter;"

(claim 7) "evaluating the figure of merit for the perturbed model relative to that of the immediately preceding model and accepting the perturbed model if more optimal relative to the immediately preceding model and accepting the perturbed model if less optimal in accordance with a probability function that varies in accordance with a control parameter;"

in combination with the remaining elements and features of the claimed invention. It is for these reasons that the applicants' invention defines over the prior art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance".


Correspondence Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mr. Tom Stevens whose telephone number is 571-272-3715, Monday-Friday (8:00 am- 4:30 pm EST).

If attempts to reach the examiner by telephone are unsuccessful, please contact examiner's supervisor Mr. Paul Rodriguez 571-272-3753. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Answers to questions regarding access to the Private PAIR system, contact the Electronic Business Center (EBC) (toll-free (866-217-9197)).

February 27, 2006


Paul P. Rodriguez 3/2/06
Primary Examiner
Art Unit 2125

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